

Serial No.: 09/928,907

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings of claims in the present application.

What is claimed is:

1. (previously presented) An information processing apparatus comprising:

storage means for storing thereinto an encrypted protective object including a procedure capable of terminating a process operation due to invalidity of a protect code contained in an executable module;

decrypting means for reading said encrypted protective object from said storage means and decrypting said encrypted protective object;

code writing means for causing said protect code to be contained in an executable module generated by linking said decrypted protective object with another object; and

deleting means for deleting said decrypted protective object after said decrypted protective object has been linked with said another object;

wherein said code writing means adds dummy data to said protect code.

2. (previously presented) An information processing apparatus comprising:

storage means for storing thereinto an encrypted protective object including a procedure capable of terminating a process operation due to an invalid relationship between a first protect code and a second protect code contained in an executable module;

decrypting means for reading said encrypted protective object from said storage means and decrypting said encrypted protective object;

Serial No.: 09/928,907

code generating means for generating said first protect code and said second protect code related to said first protect code;

code writing means for embedding said first protect code into said decrypted protective object, and for embedding said second protect code into said executable module when said executable module is generated by linking with another object said protective object into which said first protect code has been embedded; and

deleting means for deleting said protective object into which said first protect code has been embedded before said second protect code is embedded;

wherein said code writing means adds dummy data to both said first protect code and said second protect code.

3. (original) An information processing apparatus as claimed in claim 1 wherein:

 said code generating means generates both said first protect code and said second protect code from a random number.

4. (canceled)

5. (original) An information processing apparatus as claimed in claim 3, wherein:

 said code writing means adds dummy data to both said first protect code and said second protect code.

6. (original) An information processing apparatus as claimed in claim 1, wherein:

Serial No.: 09/928,907

said code writing means encrypts the protect code to be contained in said executable module; and

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said protect code is checked.

7. (original) An information processing apparatus as claimed in claim 1, wherein:

said code writing means encrypts said first protect code and said second protect code both to be contained in said executable module; and

said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect codes are checked.

8. (original) An information processing apparatus as claimed in claim 3, wherein:

said code writing means encrypts said first protect code and said second protect code both to be contained in said executable module; and

said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect codes are checked.

9. (previously presented) An information processing apparatus as claimed in claim 2, wherein:

said code writing means encrypts said first protect code and said second protect code both to be contained in said executable module; and

Serial No.: 09/928,907

said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect codes are checked.

10. (original) An information processing apparatus as claimed in claim 5, wherein:

 said code writing means encrypts said first protect code and said second protect code both to be contained in said executable module; and

 said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect codes are checked.

11. (previously presented) A machine readable storage medium stored with a program used for causing an information processing apparatus to execute a process operation, wherein:

 said program causes said information processing apparatus to execute:
 a decrypting process operation for decrypting an encrypted protective object to generate a protective object which contains a procedure for terminating a process operation due to invalidity of a protect code included in an executable module;

 a linking process operation for linking the protective object produced by said decrypting process operation with another object so as to generate said executable module;

 a code writing process operation for containing said protect code into the executable module formed by said coupling process operation; and

Serial No.: 09/928,907

a deleting process operation for deleting said protective object generated by said decrypting process operation after said protective object has been linked with said another object;

wherein said code writing process operation adds dummy data to said protect code.

12. (previously presented) A machine readable storage medium stored with a program used for causing an information processing apparatus to execute a process operation, wherin:

said program causes said information processing apparatus to execute:

a decrypting process operation for decrypting an encrypted protective object to generate a protective object which contains a procedure for terminating a process operation due to an invalid relationship between a first protect code and a second protect code included in an executable module;

a code generating process operation for generating both said first protect code and said second protect code related to said first protect code;

a first code writing process operation for embedding said first protect code into the protective object generated by said decrypting process operation after said decrypting process operation has been executed;

a linking process operation for linking the protective object into which said first protect code is embedded in said first code writing process operation, with another object so as to generate an executable module after said first code writing process operation has been executed;

a second code writing process operation for embedding said second protect code into said executable module generated in said linking process operation after said linking process operation has been executed; and

Serial No.: 09/928,907

a deleting process operation for deleting said protective object generated in said decrypting process operation in an interval between said first code writing process and said second code writing process;

wherein said information processing apparatus adds dummy data to both said first protect code and said second protect code.

13. (original) A storage medium as claimed in claim 12, wherein:

said program causes said information processing apparatus to generate both said first protect code and said second protect code from a random number in said code generating process operation.

14. (canceled)

15. (original) A storage medium as claimed in claim 12, wherein:

said program causes said information processing apparatus to add dummy data to both said first protect code and said second protect code.

16. (original) A storage medium as claimed in claim 11, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said protect code to be incorporated into said executable module; and

said protective object includes a procedure for decrypting said encrypted protect code contained in said executable module when said protect code is checked.

Serial No.: 09/928,907

17. (original) A storage medium as claimed in claim 12, wherein:

 said program causes said information processing apparatus to execute a process operation for encrypting said first and second protect codes to be incorporated into said executable module; and

 said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect code are checked.

18. (original) A storage medium as claimed in claim 12, wherein:

 said program causes said information processing apparatus to execute a process operation for encrypting said first and second protect codes to be incorporated into said executable module; and

 said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect code are checked.

19. (previously presented) A storage medium as claimed in claim 12, wherein:

 said program causes said information processing apparatus to execute a process operation for encrypting said first and second protect codes to be incorporated into said executable module; and

 said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect code are checked.

Serial No.: 09/928,907

20. (original) A storage medium as claimed in claim 15, wherein:

 said program causes said information processing apparatus to execute a proccss opreration for encrypting said first and second protect codes to be incorporated into said executable module; and

 said protective object includes a procedure for decrypting said encrypted first protect code and said encrypted second protect code contained in said executable module when said first and second protect code are checked.

21. (currently amended) A machine readable storage medium stored with an object to be processed by an information processing apparatus including a computer processor, wherein:

 an encrypted protective object is stored into said storage medium;

 said encrypted protective objct contains a procedure capable of terminating a process operation of the computer processor when thcre is invalidity in one or more protect codes contained in an executable module with said protective object incorporated therein;

 said encrypted protective object is read from said storage medium and decrypted;

 said executable module is generated by linking said decrypted protective object with another object;

 said decrypted protective object is deleted after said decrypted protective object has been linked with said another object; and

 said one or more protect codes include dummy data.

22. (original) A storage medium as claimed in claim 21, wherein:

Serial No.: 09/928,907

in the case that the protect code contained in said executable module is encrypted, said protective object includes a procedure capable of decrypting said encrypted protect code prior to a checking operation of said protect code.

23. (previously presented) A method of generating an executable module, which causes an information processing apparatus to generate said executable module by linking a plurality of objects with each other, comprising the steps of:

generating, by decrypting an encrypted protective object, a protective object containing a procedure for terminating a process operation due to invalidity of a protect code included in an executable module;

generating said executable module by linking said decrypted protective object with other object and writing said protect code; and

deleting said decrypted protective object after linking with said other object;
wherein said protect code includes dummy data.

24. (previously presented) A method of generating an executable module, which causes an information processing apparatus to produce said executable module by linking a plurality of objects with each other, comprising the steps of:

generating, by decrypting an encrypted protective object, a protective object containing a procedure for terminating a process operation due to an invalid relationship between a first protect code and a second protect code included in said executable module;

generating said first and second protect codes;

embedding said first protect code into said decrypted protective object;

Serial No.: 09/928,907

generating said executable module by linking with other object said first-protect-code-embedded protective object;

embedding said second protect code into said executable module; and

deleting said first-protect-code-embedded protective object before embedding of said second protective code;

wherein said first protect code and said second protect code include dummy data.

25. (currently amended) A machine readable storage medium stored with an executable module, said executable module being executed by an apparatus including a computer processor capable of executing an executable module assembled by linking a plurality of objects with each other, wherein:

said plurality of objects each contain a library object, and said library object contains a procedure capable of checking whether or not there is invalidity in at least one protect code and also of terminating a process operation of said executable module in the computer processor in response to said checking result;

said executable module has at least one protect code embedded thereinto;

said executable module is generated by linking a decrypted protective object with another object; and

said decrypted protective object is deleted after said decrypted protective object has been linked with said another object;

wherein said at least one protect code includes dummy data.

Serial No.: 09/928,907

26. (previously presented) An entertainment apparatus for executing an executable module generated by linking a plurality of objects with each other, one of the plurality of objects linked being a decrypted protective object, a first protect code being contained in one of said plural objects and a second protect code being contained in said executable module, the entertainment apparatus comprising:

means for checking a relationship therebetween;

means for terminating a process operation of said executable module when said relationship is invalid; and

means for deleting said decrypted protective object after said decrypted protective object has been linked with another one of said plural objects;

wherein said first protect code and said second protect code include dummy data.

27. (previously presented) A program product containing a program used to cause an information processing apparatus to execute a process operation, wherein;

said program causes said information processing apparatus to execute:

a decrypting process operation for decrypting an encrypted protective object to generate a protective object which contains a procedure for terminating a process operation due to invalidity of a protect code included in an executable module;

a linking process operation for linking the protective object generated by said decrypting process operation with another object so as to generate said executable module;

a code writing process operation for incorporating said protect code into the executable module generated by said linking process operation; and

Serial No.: 09/928,907

a deleting process operation for deleting said protective object generated by said decrypting process operation after said protective object has been linked with said another object;

wherein said code writing process operation adds dummy data to said protect code.

28. (previously presented) A program product containing a program used to cause an information processing apparatus to execute a process operation, wherein:

said program causes said information processing apparatus to execute:

a decrypting process operation for decrypting an encrypted protective object to generate a protective object which contains a procedure for terminating a process operation due to an invalid relationship among a plurality of protect codes included in an executable module;

a code generating process operation for generating both a first protect code and a second protect code related to said first protect code;

a first code writing process operation for embedding said first protect code into the protective object generated by said decrypting process operation after said decrypting process operation has been executed;

a linking process operation for linking with another object the protective object into which said first protect code is embedded in said first code writing process operation so as to generate an execution module after said first code writing process operation has been executed;

a second code writing process operation for embedding said second protect code into said executable module generated in said linking process operation after said linking process operation has been executed;

Serial No.: 09/928,907

a deleting process operation for deleting said protective object generated in said decrypting process operation in an interval between said first code writing process operation and said second code writing process operation;

said information processing apparatus adds dummy data to both said first protect code and said second protect code.

29. (original) A program product as claimed in claim 28, wherein:

said program causes said information processing apparatus to generate both said first protect code and said second protect code from a random number in said code generating process operation.

30-31. (canceled)

32. (original) A program product as claimed in claim 27, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said protect code used to be contained in said executable module; and

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said protect code is checked.

33. (original) A program product as claimed in claim 28, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said first protect code and said second protect code to be incorporated into said executable module; and

Serial No.: 09/928,907

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said first and second protect codes are checked.

34. (original) A program product as claimed in claim 29, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said first protect code and said second protect code to be incorporated into said executable module; and

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said first and second protect codes are checked.

35. (previously presented) A program product as claimed in claim 28, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said first protect code and said second protect code to be incorporated into said executable module; and

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said first and second protect codes are checked.

36. (previously presented) A program product as claimed in claim 29, wherein:

said program causes said information processing apparatus to execute a process operation for encrypting said first protect code and said second protect code to be incorporated into said executable module; and

said protective object includes a procedure for decrypting the encrypted protect code contained in said executable module when said first and second protect codes are checked.

Serial No.: 09/928,907

37. (currently amended) A computer-readable recording medium having recorded thereon a software product containing an object to be generated by an information processing apparatus including a computer processor, comprising:

an encrypted protective object including a procedure capable of terminating a process operation of the computer processor when there is invalidity of a protect code which is contained in an executable module with said software product incorporated thereinto;

wherein said encrypted protective object is decrypted;

wherein said executable module is generated by linking said decrypted protective object with another object; and

wherein said decrypted protective object is deleted after said decrypted protective object has been linked with said another object;

wherein said protect code includes dummy data.

38. (original) A computer-readable recording medium having recorded thereon a software product as claimed in claim 37, wherein:

in the case that the protect code contained in said executable module is encrypted, said software product includes a procedure capable of decrypting said encrypted protect code prior to checking whether or not there is invalidity of said protected code.

39. (currently amended) A computer-readable recording medium having recorded thereon a software product containing an executable module, which is executed by an apparatus including a computer processor capable of executing an executable module assembled by linking a

Serial No.: 09/928,907

plurality of objects with each other, one of the plurality of objects linked being a decrypted protective object, wherein:

said executable module has at least one protect code embedded therein;

said plurality of objects each include a library object which contains a procedure for checking whether or not there is invalidity of the protect code contained in said executable module, and for terminating a process operation of said executable module in the computer processor in response to the checking result; and

said decrypted protective object is deleted after said decrypted protective object has been linked with another one of said plurality of objects;

wherein said at least one protect code includes dummy data.